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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,684	07/14/2003	Kazuo Maemoto	019519-387	4126

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EXAMINER	
HAMILTON, CYNTHIA	

ART UNIT	PAPER NUMBER
1752	

DATE MAILED: 06/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/617,684	MAEMOTO ET AL.	
	Examiner	Art Unit	
	Cynthia Hamilton	1752	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/24/03, 7/17/03*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *2,3,7-11,13,14 and 16-19* is/are pending in the application.

4a) Of the above claim(s) *2,7-9,13 and 16-18* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3,10,11,14 and 19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☒ Claim(s) *2-3, 7-11, 13-14, 16-19* are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ ~~The drawing(s) filed on~~ *No Drawings* ~~is/are: a)☐ accepted or b)☐ objected to by the Examiner~~.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☒ Certified copies of the priority documents have been received in Application No. 09/870,671.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/24/03, 7/14/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The information disclosure statement filed November 24, 2003 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because no copy of Japan 09 127683 A was submitted. Only an English abstract for this document was presented. The examiner has considered all other references and the Abstract submitted. The unconsidered citation has been crossed out and the Abstract added to the attached signed Second Information Disclosure Statement by Applicants. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 ¶ C(1).

2. The information disclosure statement filed on November 24, 2003 does not fully comply with the requirements of 37 CFR 1.98 because: because no copy of Japan 09 127683 A was submitted. Only an English abstract for this document was presented. Since the submission appears to be *bona fide*, applicant is given **ONE (1) MONTH** from the date of this notice to supply the above mentioned omissions or corrections in the information disclosure statement. NO EXTENSION OF THIS TIME LIMIT MAY BE GRANTED UNDER EITHER 37 CFR 1.136(a) OR (b). Failure to timely comply with this notice will result in the above mentioned information disclosure statement being placed in the application file with the noncomplying information **not** being considered. See 37 CFR 1.97(i).

3. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 2, 7-9, 13 and 18, drawn to a printing plate precursor with epoxy groups, classified in class 430, subclass 138.

II. Claims 3, 10-11, 14 and 19, drawn to a printing plate precursor with thermoset particles, classified in class 430, subclass 278.1.

III. Claims 16, drawn to a develop processed printing plate with epoxy groups, classified in class 430, subclass 18.

IV. Claim 17, drawn to a develop processed printing plate with thermoset groups, classified in class 430, subclass 18.

The inventions are distinct, each from the other because of the following reasons:

4. Inventions I/III and II/IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation. Invention I/III is cured through epoxy groups. Invention III/IV is cured through thermoset compound as set forth on page 26 of the specification, second to the last paragraph. The thermoset compound is by example a low molecular weight compound containing a thermosetting resin and a hydroxymethyl group or an alkoxy methyl group. There is no overlap between the epoxy groups of Invention I and the thermoset compounds of Invention II as described in the specification.

5. Inventions I and III are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and

the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a relief printing plate or a lithographic printing plate that is imaged with a mask and developed off press or is developed by stripping the cured material off from a cover layer placed over it or in the formation of a lithographic printing plate with a thermal print head and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

6. Inventions II and IV are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship if the intermediate product is useful to make other than the final product (MPEP § 806.04(b), 3rd paragraph), and the species are patentably distinct (MPEP § 806.04(h)). In the instant case, the intermediate product is deemed to be useful as a relief printing plate or a lithographic printing plate that is imaged with a mask and developed off press or is developed by stripping the cured material off from a cover layer placed over it or in the formation of a lithographic printing plate with a thermal print head and the inventions are deemed patentably distinct since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this

is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

7. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II as the lack of a microcapsule in Group III requires no search in class 430, subclass 138, and the epoxy search is mutually exclusive of the thermoset search restriction for examination purposes as indicated is proper.

8. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art because of their recognized divergent subject matter, restriction for examination purposes as indicated is proper. The search for the imaged articles of Groups III and IV require the search of the method in which they were made as well as the imaged articles. Such a search is not part of the search for the articles before imaging in Class 430. The examiner has interpreted claims 16-17 to refer to the imaged articles because the requirement the precursor be "development processed on a printing machine". If an un imaged precursor was intended here then the language that the precursor is "developable on a printing machine" as an inherent property of the plate should be considered. If the claims are clearly presented wherein the precursor to imaging is presented here then the claims will be rejoined with the other un imaged precursor claims. This has been done with newly presented claims 18-19.

9. The examiner notes that Invention I/III are independent from Invention II/IV. As such, independence is sufficient reason for their separation. See MPEP 806.04. The issue of a serious burden is not part of the reason for separating these Inventions.

10. During telephone conversations with Mr. Robert G. Mukai initiated on May 17, 2004 and completed on May 24, 2004 a provisional election was made with traverse to prosecute the invention of Group II, claims 3, 10-11, 14 and 19. Affirmation of this election must be made by applicant in replying to this Office action. Claims 2, 7-9, 13, 16, 17 and 18 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

11. The examiner notes for the record that she has seen the deletion in the originally filed papers for this application of two inventors, i.e. Keiji Akiyama and Hiromitsu Yanaka, under 37 CFR 1.63(d)(2). Thus, all consideration is made to Kazuo Maemoto being the sole inventor of the claimed invention submitted with this application in view of the also originally presented preliminary amendment of the same date and set forth in the originally filed papers submitted July 14, 2003.

12. The examiner notes that the hydrophilic resins as set forth on pages 39-41of applicant's specification for the instant invention are inclusive of crosslinked resins as well wherein the agent for crosslinking the resin could be epoxide.

13. The examiner notes on page 70, last paragraph that the image to be formed in the plate precursor claimed can be formed by thermal recording head, scanning exposure to infrared laser, high intensity flash exposure by a xenon discharge lam and infrared lamp exposure. This does not limit the precursor plate but does clearly broaden the area of prior art to be considered in view of applicant's intended use of said precursor.

14. The examiner notes on page 51, third paragraph of applicant's disclosure that "infrared ray-absorbing dyes" must be "light-absorbing substances having absorption band at least in a part

of the wavelength of from 700 to 1200 nm" and that they are not limited to dyes but are inclusive of pigments, dyes and metal particles as defined by applicants. It is clear that applicants have broadened the meaning of "dye" by definition for their invention. This has been taken into consideration by the examiner.

15. The examiner notes that on pages 64-65, the instant claimed precursor is inclusive of overcoat layers being present with the option of having the overcoat containing "above-described water-soluble infrared ray-absorbing dyes".

16. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

17. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

18. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner notes that applicants use the term "phenolic skeleton" and give examples on page 27, i.e. "e.g., phenolic resins obtained by resinifying phenol or cresol with aldehydes such as formaldehyde, hydroxystyrene resins, methacrylamide or acrylamide resins having a phenolic skeleton, e.g., N-(p-hydroxyphenyl)methacrylamide, and methacrylate or acrylate resins having a phenolic skeleton, e.g., N-(p-hydroxyphenyl) methacrylate, can be exemplified." Applicants never define what is meant by "phenolic skeleton" other than by example. It is not clear from the disclosure if a phenol group is required present by this

terminology? It is not clear whether an aromatic ring is required by this terminology. The examiner believes a worker of ordinary skill in the art would recognize that a six member carbon ring with at least one oxygen atom attached which was singly bonded to another atom would be included by such a definition and perhaps would consider the ring to be aromatic. It is not at all clear if only phenols are included.

19. Claims 3, 10-11, 14 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The examiner notes for the record that thermosetting compound appears to be defined by applicants on page 26 as "The thermosetting compound for use in the present invention is a low molecular weight compound containing a thermosetting resin and a hydroxymethyl group or an alkoxylmethyl group". Pages 26-27 give examples of the "thermosetting compound" which appear to be a mixture of compounds and not a sole compound. There is the "thermosetting resin" as defined on pages 26-27 and then there is the "compounds having a molecular weight of 1,000 or less" set forth starting in the last paragraph on page 27. Then there are the particles in the examples set forth below

a. Synthesis Example of Fine Particles (31), starting on page 78, is drawn to fine particles made from a phenolic resol resin, an infrared ray-absorbing dye and an anionic surfactant along with polyvinyl alcohol.

b. Synthesis Example of Fine Particles (32), starting on page 78, is drawn to fine particles made from an epoxy resin 1,8-diaminoocatne and an infrared ray-absorbing compound and a surfactant and formed in as in (31).

c. Synthesis Example of Fine Particles (33) is drawn to fine particles made from phenol novolak resin, "a low molecular weight thermosetting compound (a compound respresented by formula (T-1)" an infrared ray-absorbing dye and an anionic surfactant and formed as in (31) with polyvinyl alcohol.

d. Synthesis Example of Fine Particles (34) is drawn to fine particles made from a cresol novolak resin, hexamethoxymethylmelamine, an infrared ray absorbing dye and surfactant formed as in (31) with polyvinyl alcohol.

e. Synthesis Example of Fine Particles (35) is drawn to fine particles made from a 100% oil-soluble phenolic resin an infrared ray absorbing dye and surfactant formed as in (31) with polyvinyl alcohol.

f. Synthesis Example of Fine Particles (36) is drawn to fine particles made from a phenolic resol resin and surfactant formed as in (31) with polyvinyl alcohol.

These particles are used in plates grouped together In Table 3 and set forth as Example III-1 to Example III-16. Page 93 makes clear that Table 1 is drawn to examples of vinyloxy group precursor particles and microcapsules. Page 97 of the specification makes clear that Table 2 is drawn to precursors with fine particles or microcapsules containing an epoxy group containing compound. No such clarity is given to what is part of Table 3. Image forming layer coatings used are of three kinds. Solution (8) used with Fine particles (31), (32), (33), (34), (35) and (36) has fine particles, water, a surfactant, polyvinyl alcohol and hexamethoxymethylmelamine. Solution (9) used with fine particles (31) and (32) consists of water, fine particles, a surfactant, polyethylene glycol and hexamethoxymethylmelamine. Solution (10) used with fine particles (31) and (32) consists of water, fine particles, surfactant, polyvinyl pyrrolidone, and

hexamethoxymethylmelamine. There is no clear statement with regard to the examples in Table 3 as describing the fine particles containing a thermosetting compound. The fine particles of (31), (32), (33), (34), (35) and (36) do not all contain a hydroxymethyl group or an alkoxymethyl group. Fine particle 31 does not but Fine particle 31 is used in a composition that has an added hexamethoxymethylmelamine. Fine particle 35 does not but Fine particle 35 is used in a composition that has an added hexamethoxymethylmelamine. Fine particle 32 is made from the epoxy resin Epikote 1002 which is described in "product data sheet EPIKOTE™ RESIN 1002" re-issued September 2002, which the examiner notes is after the filing date of June 2001 for this application, as a solid epoxy resin produced from bisphenol A and epichlorohydrin.

The examiner is unclear upon considering applicant's specification, examples and claims what is encompassed by the "fine particles containing a thermosetting compound" in the instant claims. Do applicants intend to claim all thermosetting compounds such as thermosetting epoxy resins without limit to "The thermosetting compound for use in the present invention is a low molecular weight compound containing a thermosetting resin and a hydroxymethyl group or an alkoxylmethyl group" of page 26? Do applicants mean that the image layer has the hydroxymethyl group or an alkoxylmethyl group present somewhere even outside the particle? Which examples read on the claimed invention? The general meaning of "thermosetting" with respect to plastics are those that harden irreversibly when heated. This is a much broader class of thermosetting materials than that defined on page 26 of applicant's specification. Thus, the scope of the precursor defined by claims 3, 10-11, 14 and 19 is unclear for these reasons.

Further, is the thermosetting compound which is contained by the fine particle one compound or a minimum of two compounds one a thermosetting resin and the other containing a

hydroxymethyl group or an alkoxylmethyl group? Again, the specification does not make this clear.

For these reasons, the examiner finds instant claims 3, 10-11, 14 and 19 do not particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The examiner has used applicant's definition on page 26 as a guideline as to where to search but she is unsure if a broader search should be made at this point due to the confusion as to what is meant by "particle containing a thermosetting compound" when considering the specification as a whole.

20. Claims 3, 10-11, 14 and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 3, is found "an image-forming layer containing fine particles containing a thermosetting compound and a hydrophilic resin". It is unclear from this wording whether the hydrophilic resin is contained in the particles or is more broadly contained in the layer. With respect to instant clam 19, this same confusion occurs with "an infrared absorbing dye and a hydrophilic resin and if they are contained in the layer or, more narrowly, in the fine particles. Thus, the limits of claims 3, 10-11, 14 and 19 are confusing at this point. The examiner notes that in reading the specification the hydrophilic resin is not in the particle but that the infrared absorbing dye as evidenced by claim 10 could be in the particle or out of the particle with the thermosetting compound.

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

22. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

23. Claims 4, 11 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Cheng et al (5,516,620). The microcapsules made as developer microcapsules in the Examples of Cheng et al appear to have as part of them what would be considered a thermosetting compound in the instant claims. These thermosetting compounds are the melamine formaldehydes, the isocyanate compounds an the melamine-formaldehyde prepolymer of CYMEL 385 as set forth in the Preparation of Microcapsule section of the EXAMPLES of Cheng et al. Thus, because of the confusion as to what is meant by thermosetting compound and what is in the particle of the instant claimed invention, the plates of Cheng et al as set forth in their examples are seen to anticipate the instant plates claimed in instant claims 4, 11 and 14.

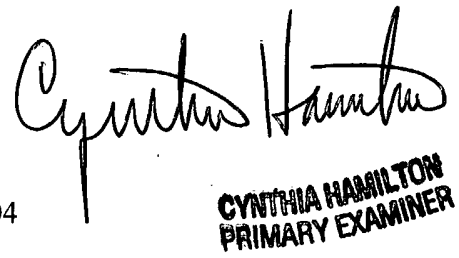
24. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Belmont (WO 01/25340 A1) disclose using their modified pigments in imagable lithographic plates. They also disclose among a myriad of modifications that the pigments could have thermosetting polymeric groups. There is no mention found by the Examiner in Belmont that the specific pigments which are by definition finely divided particles of solid colorant with these groups are used in image layers wherein a hydrophilic polymer is also present. The

examiner also notes that the pigments of Belmont are designed to be used in a host of processes varying form inks, toners, coatings, films, etc. thus, the use of a specific modified pigment in a specific plate formation not clearly disclosed by Belmont would not have been prima facie obvious in view of Belmont. In Belmont, see particularly page 7, line 16, and pages 19-20. Because of the confusion as to what is meant by thermosetting compound, Belmont is cited but pursued no further with respect to the incorporated references on page 20 of Belmont until clarification of the scope of the instant invention is made by applicants. Yamasaki (2002/0100385 A1) make use of non melting crosslinked polymer particles which because of their non reactive nature described could be considered as thermoset, i.e. not thermosettable because they are required not deform or melt, particles in an image layer of a lithographic printing plate prescursor. The plates in general use thermosetting layers in Yamasaki but there is no disclosure to any thermosetting component in a particle form. In Yamasaki, see particularly [0123], [0132] and [0088]. Fromson et al (4,501,810) disclose all of the instant plate of claim 1 with the exception of a separate hydrophilic resin in the image layer. Thermosetting resins are used for the resin particle layer which may be a matrix with the diazo resin. However, there is no disclosure to a hydrophilic resin in this layer. The thermosetting resins are disclosed as oleophilic by Fromson et al. In Fromson et al, see particularly col. 6, lines 15-53. Muzyczko et al (4,186,069) disclose using thermoset unreactive particles in their plates. The examiner notes that lack of clarity with respect to the nature of the plates claimed has caused some uncertanty as to what to examine. Thus, applicants are informed that clarification may lead to further art discovery upon a clearer understanding as to what is intended by applicants.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Hamilton whose telephone number is 571-272-331. The examiner can normally be reached on Monday-Friday, 9:30 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 571-272-1385. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Cynthia Hamilton
Primary Examiner
Art Unit 1752

June 14, 2004